

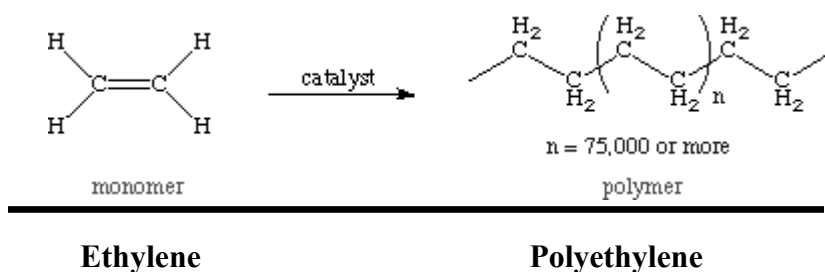
C-3.9 Classify polymerization reactions as addition or condensation (additional content/depth)

Revised Taxonomy Level 2.3 B (Classify conceptual knowledge)

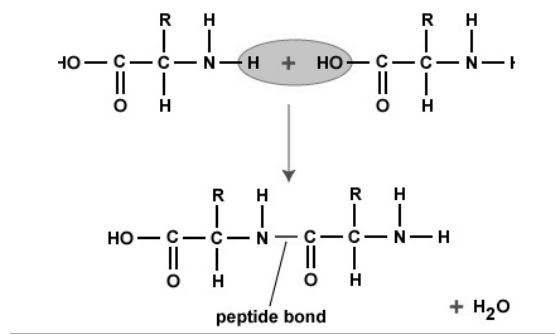
Students did not address this topic in physical science

It is essential for students to

- ❖ Understand that an addition polymer is one which has been formed by chain addition reactions between monomers that contain a double bond.
 - For example, the polymerization of ethylene into polyethylene



- ❖ Understand that a condensation polymer is one which has been formed by two different parts of the same type of a molecule combining into long chains.
 - For example, the peptide bond in proteins



Assessment

As the indicator states, the major focus of assessment is to classify polymers by the type of bonding. As the taxonomy verb is classify as opposed to distinguish, the assessment item should include all of the relevant information that is needed to make the distinction between categories, therefore, the bonding steps should be illustrated with structural formulas, diagrams or with verbal descriptions.

As the indicator has a cognitive dimension of conceptual knowledge, assessment items will require that students understand each of these categories in terms of the “interrelationships among the basic elements within the category”, In other words students must show that they understand the criteria for each category.